THE
Practical Diſtiller:
Or, a Brief
TREATISE
OF
Practical Diſtillation.

In which the DOCTRINE of

FERMENTATION

Is Methodically Explain'd in a New Method.

WITH THE

Deſcription of a New ENGINE-STILL,
Engraved on a Copper-Plate; which, for its
Diſpatch of Buſineſs, is preferable to any other.

To which is added, by way of Appendix,

A TREATISE of making Artificial
Wines from ſeveral Fruits of the *Britiſh*
Production, interſpers'd with many uſeful
Reflections and Obſervations.

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Of DISTILLATION.

SPECULATIVE and Practical Knowledge being vaſtly different, my Purpoſe here is to treat of the Practical Part of Diſtillation: The Speculative Part of it has, I confeſs, being very Ancient; yet an unactive Theory cannot acquire thoſe Advantages that practical Experience does. This gradually improves by ſenſible and viſible Effects, thus gaining by Time many new Illuſtrations: Which Illuſtrations repreſent it ſtill capable of further Improvements, as the ſubſequent Sheets, I preſume, will evidently demonſtrate. And theſe Improvements, or practical Experience, are the moſt convincing Proof of Truth that human Wit can give.

The Animal, Vegetable, and Mineral Kingdom afford a great variety of Subjects aſſignable for this Uſe; and indeed if we traverſe the ſpacious Field of Nature, we may obſerve almoſt every thing fit for the ſame: For not only in the diſtinct Provinces of Animals, Vegetables, and Minerals, we may conſpicuouſly diſcern the Motions and Effects thereof; but the whole World of Sublunary Bodies is one and the ſame Compoſition powerfully impregnated with fermentatious Particles, which in every Region and Corner are in a perpetual Motion; from which the Formation, Decay, and Tranſmutation of Bodies depend: For not only in the Bowels of the Earth, and in the Waters, the Corpuſcles thereof are plentifully diffus'd; but they are likewiſe expanded through the whole Atmoſphere of Air.

Diſtillation then being an Art by which the Quinteſſential Particles, and moſt exalted Eſſences of Bodies, are extracted from the more groſs and terrene Parts of Animals, Vegetables, and Minerals; and Fermentation being the principal Matter on which that Art depends, eſpecially in relation to the Vegetable Kingdom; I ſhall wave treating of the other Two, as foreign to my Intention, and proceed to demonſtrate the Manner and Nature of Fermentation, and how its Operation is perform'd, that the Rudiments of this Art may be more readily explicated.

* * *

Of FERMENTATION *artificially perform'd.*

IN the Works of Art, ſo various and manifold a Proviſion is obſerv'd in Fermentation, that it is wholly impoſſible to enumerate every Species, or to reduce them to any determinate Order. However, according to our Obſervation, we ſhall affix ſome remarkable Examples, conformable to which many other Phœnomena may be accounted for.

As to that Part of Fermentation, which in proper Subjects is accompliſh'd by human Induſtry, theſe three Things are firſt to be conſider'd.

Firſt, Of what Nature and Compoſition are thoſe Bodies, which are moſt fit for Fermentation, and thoſe which are partly the Reverſe thereof.

Secondly, What are thoſe Things which are moſt requiſite for promoting or intercepting the Motion of Fermentation.

Thirdly, How different is the Motion and the End of Fermentation, as alſo what are the Effects and Alterations conſequential thereto.

As to the firſt Propoſition requir'd in Bodies when tending to Perfection, that their Fermentation may be regular, there ought to be ſome heterogeneous or diſagreeing Particles therein; otherwiſe thoſe fermentatious Particles included in that Body, are not ſo readily capable of expanding themſelves. Thus in compact or ſolid Bodies, or in thoſe endow'd with a glutinous Quality, Fermentation does not ſo readily ſucceed; but thoſe which are of a liquid Nature, as Wine, Beer, the Juices of Fruits and Herbs, very readily ferment. Next to theſe, are thoſe Things endow'd with a ſoft, tho' thicker Conſiſtence, as Bread, many Eatables, and phyſical Compoſitions.

In the Second, 'Tis requir'd there may be a Diſſonancy of Parts, or a Confuſion of all the Principles together; to wit, that ſome Particles may reſiſt others, and excite them to Motion. For the moſt ſimple Bodies are the leaſt apt for Fermentation, by reaſon thoſe Particles, which are coherent in their Nature, lye generally ſluggiſh and inactive: But in thoſe endow'd with diſagreeable Qualities, there is an immediate Conflict for Power; and ſome being repugnant to others, excite them to Motion.

The Third Condition is, That in a Body to be thus fermented, there ought to be neither too much Crudity, nor Maturity. In the firſt, thoſe active and ſubtile Particles are not ſo readily diſengag'd from the groſſer; nor are they ſo fit for Motion, as is evident in Juices expreſs'd from unripe Fruits. In the other Sort, the Particles being render'd too volatile, are not contain'd in the Bond of Mixture; but immediately evaporate, and turn themſelves to Putrefaction. Hence Juices expreſs'd from Fruits too ripe, do not ſo readily change into a vinous Nature, but they as ſoon corrupt and decay.

As to the Second Propoſition, there are many Ways by which Fermentation is either hinder'd or promoted; the Principal of which is, that there may be an Addition of ſome proper Ferment to that Body which is to be fermented, whoſe Particles, when they are firſt put in Vigor and Motion, rouze thoſe which are ſluggiſh and inactive. In this manner, Yeſt, Eggs beaten, and the like, promote an entire Fermentation in Bodies adequate thereto; and to which may be juſtly aſcrib'd the Nitrous Particles of the Air inſinuating themſelves in the Pores of the Fluid rarified by Motion, whereby Fermentation in general is very much hinder'd or promoted: Which Aſſertion is manifeſted by the *Southern* and *Northern* Winds heating or cooling the Atmoſphere; the one by its Warmth giving a remarkable Impreſs to the Motion of Fermentation; and the other, by conſtipating the Aerial Particles, not only prevents, but even hinders its progreſſive Power.

As to the Third Propoſition; Altho', properly ſpeaking, the Motion of Fermentation is only a Verſion of confus'd Principles from a State of Crudity to Maturity; and the Completion thereof, no more than the Tendency of any Thing to its ultimate Perfection: Yet by frequent Practice, this Denomination is attributed to many other Motions, and far more different Effects.

When therefore the fermentatious Particles of any Body are evidently in Motion, the Alterations ariſing from thence may, in ſome meaſure, be referr'd to theſe Heads:

Firſt, Either the Exaltation and Perfection of the Parts of the ſame Body are obſerv'd, or its Diſſolution and Corruption compleated. Or, Secondly, There is either intended a Diſſolution of the Parts of the ſame Body, or a Precipitation of the Parts of another already diſſolv'd.

It now remains, that I briefly treat of the Motions of Fermentation.

Of Fermentation, *as it is obſerv'd in the Exaltation of Bodies, and their Tendency to Perfection.*

THE Exaltation of Parts is moſt conſpicuouſly diſcern'd in thoſe Things deſtin'd to human Uſe, in as much as by Fermentation they obtain a greater Vigor and Perfection; as are, firſt, Aliment and Medicines, in many of which we endeavour to extract the ſpirituous Parts from the reſt; and therefore ſtudy to procure a pleaſant and grateful Taſte, and other engaging Qualities, as is obſervable in Bread, Beer, Wine, Cyder, and many other Things: But in ſome, the Spirituous Parts being depreſs'd, we attempt to extract the Saline, as in Vinegar, Hydromel, Broths, Pickles, and Preſerves, which conſiſt of Salt or acid Liquors. Amongſt the Aliments applicable to human Uſe, Bread, Beer, Wine, Cyder, *&c.* deſerve the firſt Rank: For whatſoever they have of Virtue or Power, may be moſt juſtly aſcrib'd to Fermentation; the Efficacy of which is evidently prov'd by the following Experiment.

Take the ſtrongeſt Wort that can be got; diſtil, and nothing ſhall ariſe, but only a ſimple or inſipid Water, totally enervated of Spirits and Power: But if the ſame Wort ſhould be firſt duly fermented, and then diſtill'd; in the firſt Diſtillation there wou'd aſcend a ſtrong Water, which by re-diſtilling, there is obtain'd a Spirituous Fluid diveſted of its groſſer Particles. I inſert this, to prove the abſolute Neceſſity there is of Fermentation for extracting the Spirituous Particles of thoſe Bodies, without which there is no Poſſibility of obtaining them.

Fermentation then being an inteſtine Motion of Particles, or the Principles of any Body tending to the Perfection of the ſame Body, or its Mutation into another ; ſo the Elementary Particles being either naturally or occaſionally urg'd into Motion, remarkably move themſelves, or are mov'd by others, the ſubtile and more active Particles every way expanding themſelves, and endeavouring to evaporate ; which, as they are entangled by the groſſer, are detain'd in their Flight : In the Interim, the groſſer themſelves being very much attenuated by the Conflict and Expanſion of the ſubtile, till each being elevated to their moſt exalted State, either procure a due Perfection to the Subject, or elſe accompliſh thoſe Alterations and Changes deſtin'd by Nature.

Fermentation then being ſo eſſentially neceſſary for unfettering the Parts of that Body, whoſe Spirituous and Sulphureous Particles are imperceptible till aſſiſted thereby : I now come to explicate what the ſpirituous and Sulphureous Particles conſiſt of, when their Bodies are thus opened by a previous Fermentation.

Of the Motion of Fermentation, *as it is obſerv'd in the Decay, Putrefaction, and Corruption of Bodies.*

NAtural Bodies impregnated with a moderate Portion of Spirit, Salt, and Sulphur, continue not long in that State: But thoſe active Principles are perpetually inclin'd to Motion; for when they firſt unite from a State of Crudity and Confuſion, there is a progreſſive Motion to Perfection; by means of which, when they arrive to their moſt exalted State, they continue not long in that Poſition, but from thence haſten to a Diſſolution of the ſame Subject. And thoſe Things which are endow'd with the greateſt Volatility, the Bond of Mixture being diſcover'd, they firſt break forth, afterwards the reſt ſeparate into Parts, till the Form of the Compoſition is totally alter'd: The Spirit arriving to its moſt exalted Perfection, firſt evaporates, with a Portion of the Aqueous Particles and a purer Sulphur, diffuſing a pleaſant and grateful Odour. Afterwards the groſſer Sulphur, with the Salt, being ſeparated from that Power which confin'd it, ſuffering a Flux, gradually evaporate; and thus united, occaſion a fœtid and ungrateful Smell. Together with theſe are the watry Parts conſum'd, which change the Texture of the Subject into a *Caput Mortuum*, or *Terra Damnata*.

The Proceſſes of this Sort are demonſtrated in Subjects either Natural or Artificial. Concerning natural Things, a Separation of the Elements, and their Diviſion into Parts, from hence owe their Beginning, as well in the Corruption of living Bodies, or the Extinction of Life and Vegetation, as well as in their Reduction to Putrefaction.

In Vegetables, as Accretion and Maturity depend upon the Unition and mutual Adheſion of their Principles; ſo their Declination and Decay are dependant on their Separation and Diviſion. In Plants and Fruits, from a crude Juice, and acid Spirit, and Sulphur, gradually exalted, they come to Maturity, on which the Sweetneſs, Smell, and delightful Colour depend. From thence the Spirit and Sulphur, with the other Elements gradually evaporating, they are ſoon reduced to Rottenneſs and Decay: If afterwards the more ſubtiliz'd and pure Particles of their Spirits and Sulphur evaporate, and there yet remains a Portion of Earth and Salt with an Equality of Sulphur, the Matter then does not ſo readily putrify, but changes and withers. But if the Salt and groſſer Sulphur, ſuffering a Flux together with the other elementary Particles, diſengaging themſelves from the Subject, the Bond of Mixture being divided, preſently the external Humidity remaining, exerts its Power, and turns that Body to Putrefaction.

Of Principles.

BY the Name of Principles, I comprehend the moſt ſimple and uncompounded *Ens* or Power, by the Combination and inteſtine Motion of which, Bodies are produc'd and increaſe; and by a mutual and alternate Separation and Diſſolution, they are chang'd and decay: In the mean time, the Particles which are united to, or ſeparated from thoſe Subjects, are viſible to us under the Form of Spirit, Sulphur, Salt, *&c.*

Of the Spirituous and Sulphureous Parts of Bodies.

BY the Name of Spirits may be comprehended the Sulphureous Parts of Bodies divided by Fermentation: In which Operation, the Volatile

Saline Effluvia are conjoin'd to a Portion of the Aqueous Particles, brought to Maturity by Nature, and ſeparated by Art into a Volatile *Ens*; in which is contain'd the moſt eſſential Power of that Body thus ſeparated or divided by Fermentation, which the Parent of Nature has conſtituted in this World, as the Inſtrument of Life, Soul, Motion, and Senſe of all things. And whilſt, according to their Nature, they are always endeavouring to evaporate, leſt their Compoſition ſhould be too ſoon deſtroy'd, they are ſometimes united to groſſer Particles; by ſubtilizing and refining of which, they diſpoſe their Subjects to Maturity, as is obſerv'd in the Production, Growth, and Fermentations of Bodies. From the Motion of which, the Vivacity of Bodies, the Origin of Plants, the Perfection of Fruits, Liquors, and other Preparations proceed: They determine the Form and Figure of any thing prefix'd, as by Divine Appointment: By their Preſence they preſerve the Bonds of Mixture, and divide them at their Pleaſure: They check the inordinate Motions of Salt and Sulphur. The Perfection and State of all things conſiſts in a Plenitude and Exaltation of Spirits; and their Changes and Declinations, to their Loſs and Deficiency.

Sulphur is of a Conſiſtence ſomewhat thicker than a Spirit; and after that, is very active: For when the Compoſition of Bodies is opened, the Spirits firſt break forth, preſently the Sulphureous Particles attempt to follow. The Diſpoſition of any thing, as to its Colour, Conſiſtence, and amiable Texture, are principally dependant on its Sulphur. Hence, for the moſt part, ariſe the Variety of Colours and Smells, the Beauty and Deformity of Bodies, and that vaſt Variety of Taſtes, in the Embraces of which the Spirit immediately reſides, by which it is united to the more ſolid Embraces of others.

As to the Subſtance of Sulphur, although 'tis leſs ſubtile than that of Spirits, yet 'tis of greater Energy and Power. For this, unleſs it is reſtrain'd, and the Particles thereof are inſeparably detain'd by the Intervention of other Bodies, not only quits its Subject, but by a too impetuous Eruption deſtroys it: For the Corpuſcles thereof being gently agitated, promote Digeſtion, Maturity, Sweetneſs, and many other perfect Qualities to Bodies; but being too intenſely mov'd, they break forth in Flame and Conflagration.

The Subſtance of Sulphur is never obſerv'd perfect. From other Bodies it does not ſeparately exiſt, but readily evaporates; the Particles thereof being united to Salt and Earth, remain as fix'd and immoveable, as is obſerv'd in Metals, and ſome Stones; or being diluted with Spirit and Water, or united with other Principles, is excited to Motion. For firſt, either the Corpuſcles thereof being entangled by Salt and Earth, or too much impregnated with Humidity, are obſcur'd; ſo that from thence they feebly exert themſelves; from whence proceeds the cold and moiſt Diſpoſition of Things; the Qualities thereof are ſluggiſh, and of leſſer Efficacy, and their Bodies are leſs inflammatory; as is conſpicuous in unripe Fruits, crude Juices, and green Woods. Or,

Secondly. The Particles of Sulphur, with the Spirit, begin to diſplay themſelves; and being more cloſely united, remarkably exceed the other Principles; and ſo by their Motion evaporate the ſuperfluous Humidity, occaſioning thereby a warm Diſpoſition, active Qualities, a vegetative Power, and Maturity to Bodies: Which Exaltation of the Sulphur is demonſtrated in Wine, in

Liquors long fermented, ripe Fruits, and the florid Conſtitution and Vigor of Animals. Or.

Thirdly, The Sulphureous Particles being too much rouz'd by Fermentation, diſſolve the Bonds of Mixture, and endeavour to fly away. And according to their different Diviſion or Separation, the Diſſolution of Bodies differently depend: For either they gradually, and, comparatively ſpeaking, inſenſibly evaporate with the Water and Spirit, and leave the Subjects wither'd and dry; which, when they are diveſted of their Sulphur, are reduced into Powder. Or, *Secondly*, In Bodies replete with Sulphur, when the Compoſition is diſſolv'd, and the Spirits begin to evaporate, the remaining Particles of Sulphur being very much agitated, are wont to acquire Heat; and being united with a cloſer Contexture, are ſo remarkably endow'd therewith, that they are ſometimes ſet on Fire; as is manifeſted in Dung and Hay growing hot; and in this manner violently breaking forth, they emit a fœtid Smell, and promote the Subject to Putrefaction.

There is a third Method of Eruption, in which the Sulphureous Particles ſeparating from Bodies violently ſeizing each other, and uniting together, break forth into Fire or Flame; by which means, being not confin'd, they break all Obſtacles, and totally deſtroy the Compoſition of the Subject. And in this manner, either ſpontaneouſly, or by a proper Efferveſcence, they acquire Heat; as when Hay is laid up too moiſt, or as the Wheels or Axles of Carriages by Motion grow hot, ſo the Particles thereof being violently moved, rouze thoſe which are next to them, and excite them to the like Method of Conflagration.

Of SALT.

SALT is of a more fix'd Nature than either Spirit or Sulphur, neither is it ſo apt to evaporate; but contributes to the Unition, Solidity, Weight, and Duration of Things; it hinders the Diſſolution of Bodies, and very much prevents Putrefaction, Corruption, and Inflammability; in as much as it fixes in its Embraces, and detains in its Body the Spirit and Sulphur, which would otherwiſe be endow'd with too great a Volatility. Hence ponderous Woods, Stones and Metals, and thoſe Bodies impregnated with Saline Particles, hardly burn, and are longer preſerv'd from Corruption.

Not only the Duration of the Individual, but alſo the Propagation of the Species, depend on the Principles of Salt; becauſe the Increaſe of Minerals, the Fertility of the Earth, the Vegetation of Plants, and the repeated Formation and Production of Animals, owe their Origin to a Seminal Salt: For the Salt being render'd Fluid, unites the Corpuſcles of the Spirit and Sulphur, being too much divided or unactive, and excites them to Motion; and being thus united, principally ſerves for the firſt Formation of Bodies.

Having treated of thoſe active Principles, which conſtitute the firſt Formation of Bodies; I come now to treat of thoſe Parts, which chiefly contribute to their Bulk and Conſiſtency. Hence either Liquids or Solids are, in Proportion, larger or ſmaller: For Earth and Water, by the Unition of the other Principles, fill by their Interpoſition thoſe void Places, expand and enlarge the Lineaments of the Body, being otherwiſe too imperfect and contracted.

Of WATER.

WATER is generally the moſt convenient Vehicle of Spirit and Sulphur; by the Intervention of which, they are alternately united with Salt: For the other Principles being diſſolv'd, or at leaſt dilated with watry Particles, continue in Motion.

When there is a Deficiency of Water, thoſe active Principles being too cloſely united, mutually waſte and impair each other: And when by this means a Supply of Aliment is intercepted, the Body withers and decays. If there is too great a Portion of Humidity, theſe Elements are too much ſeparated and divided. Hence the Subject is unactive, and of leſſer Efficacy, and appears unfit for Motion. Moreover, Bodies which are too moiſt are very ſubject to Putrefaction and Decay, by reaſon of too great a Humidity; the Unition of the Spirit, Salt, and Sulphur, is render'd too expanſive, that they cannot be ſo mutually incorporated, neither are they, when united, ſo readily retain'd in the Subject; but a larger Portion of the Water exhaling, and the Compoſition of the Subject being divided, the Spirit and Sulphur, where-ever there is a Paſſage, readily break forth, and leave the Subject inſipid, or too much actuated by its Saline Principles. Hence the Infuſion of Vegetables, Decoctions, the Juices of Herbs, or any other liquid Preparations, if the Quantity of Water is greater, or diſproportionable to the other Principles, their Compoſitions are deſtroy'd.

Water is eaſily extracted from any Subject by Diſtillation: For when the Spirit and Sulphur are frequently ſheath'd in the Embraces of Salt or Earth, and are hardly diſentangled therefrom, unleſs obtain'd by a more intenſe Heat, and often require a previous Putrefaction; Water, as before-mentioned, is very readily, and often, with little or no Trouble, extracted from any Body by Diſtillation; but generally ſome of the looſer Particles of the Spirit and Sulphur ariſing therewith, partly impregnate the Water with thoſe eſſential Qualities, as are conſpicuous in its Taſte and Smell.

Having ſeparately treated of the Elements or Principles of Natural Bodies; it now remains, that I proceed to demonſtrate the Cauſes and Effects of their Affinity and Coherence, becauſe theſe ſo readily agree with thoſe, and are hardly or ever ſeparated from each other.

By the mutual Coherence of ſome, and the vaſt Diſparity of others, ſuch different Effects are produced, that the Knowledge thereof very much illuſtrates the Doctrine of Fermentation.

Betwixt the Spirit and Sulphur, there is ſome Affinity and Similitude of Parts, which in both are very active, and eaſily divided. Hence the Spirit being extracted from any Subject by Diſtillation, plentifully carries the Sulphureous Particles therewith, as is obſerv'd in Spirituous Liquors extracted from any Body: To ſome of which, if fair Water is added, the Sulphur being precipitated thereby, the Liquor appears cloudy; but the Spirit without the Sulphur is indifferently mingled with the Water, which from the Volatility it is endow'd with, is eaſily ſeparated by Diſtillation.

Although Spirit and Sulphur are Principles very nearly related to each other, and becauſe they are of a quick Motion, and both inflammatory; yet are they not of the ſame Nature, as is aſcrib'd by ſome: For Sulphur plentifully ſubſiſts in thoſe Bodies which are almoſt deſtitute of Spirit, as is evident in common Sulphur, Antimony, and ſome Minerals, in which the Particles thereof are ſo very fix'd, and by their Nature almoſt immoveable. Which is very different from the Nature of Spirits: For thoſe being plentifully diffus'd in any Compoſition, never lie idle, but are always in Motion; and where they are differently diſpos'd, they occaſion various Alterations in the Subject. Moreover, if they are impregnated with Vigor, they eaſily and without Noiſe ſpontaneouſly break forth: And Sulphur, altho' it is very prevalent, does not ſo eaſily evaporate; but an intenſe Heat or actual Fire is requir'd, that there may be a Paſſage for its Eruption; and at length breaks forth not without a Stench.

Hence, if we attempt to diſtil Oily or fat Subſtances with a moderate Heat, theſe, altho' they are very ſulphureous, are wont to afford a Liquor only watry, or in the leaſt inflammatory; but if we urge a generous Wine, which is turgid with Spirit, with the gentleſt Heat of a *Balneum*, an inflammable and burning Spirit is extracted from thence by Diſtillation.

Having briefly, tho' evidently, treated of the Nature of Fermentation in all its Branches applicable to the Rudiments of Diſtillation; I now come to treat of the Art it ſelf, in a Method totally different from the common Practice, and conſequently preferable thereto, which I freely ſubmit to the Judgment of the impartial Reader.

Before I attempt to deſcribe the Form of this Engine-Still, and the Nature of its working with that Expedition, that in one Hour it ſhall diſpatch more Buſineſs, than any other of treble its

Dimenſions ſhall in Two or Three, with ſeveral other Advantages accruing thereby; I think it proper to ſhow the many Inconveniences attending the working of the Stills now made uſe of, from whence the Compariſon between the one and the other may be more rationally accounted for.

Firſt, As to the Degrees of Fire in working the common Stills, every mean Stoker knows, that if the Fire is not nicely regulated, when the Still firſt begins to work, the leaſt Error committed then, frequently terminates in the blowing up of the Head, or throwing the Waſh foul into the Worm, which proceeds from too intenſe a Heat at firſt, and the Form of the Head, Neck and Worm, where the Vapour is thrown into the Head from the Body of the Still, and from thence is diſcharg'd by the Swan-Neck into the Worm, form'd into ſo many Circumvolutions for condenſing the exhaling Vapour ariſing from the Waſh boiling thus violently, that 'tis not diſcharg'd from the Neck into the Worm, in Proportion to what is crowded into the Head, from whence this Inconveniency proceeds.

Another and indeed as material a Reaſon as the former, is this, That by the Method now made uſe of, great Part of the more ſubtiliz'd and Ætherial Volatility of the Spirits is always loſt, in which the purer and more eſſential Gaſs of its acid Particles conſiſt; in as much as the Vapour being violently thrown into the Worm, it muſt indiſpenſibly paſs at leaſt thro' one half thereof before it is condens'd into a Fluid; and by that time 'tis diſcharg'd into the Cans or Under Backs, confirms what I before-mention'd, that the moſt volatile Effluviums of the Spirit are inevitably loſt by this Method, which very much deprives it of that pungent Quality it would otherwiſe be more fully impregnated with; which the continuing Puffing of Wind at the End of the Worm, if the Hand is held thereto, plainly evinces, occaſion'd by the continued impulſe of Air included in the Body of the Still Head, Beak and Worm, which the different Motions of the Stream, partly intercepted by the Intermiſſion of Air crowding thus plentifully from within, farther demonſtrate.

This being premis'd, I now come to deſcribe this New-Invented Engine, and the manner of its working; which how far preferable it is to all Inventions in Diſtillations hitherto diſcover'd both for Profit and Diſpatch of Buſineſs, I leave all Perſons to examine.

The Engine, at firſt View, ſhews the Deſign of its Invention: The Globe may be made of Pewter thinly caſt, which I think preferable to Copper, *&c.* the Intention of which is ſubſtituted in the Place of Worms, now made uſe of; which being in the Center of the Globe join'd to a Worm affix'd thereto, in Proportion to the Bigneſs of the Globe, gives room, when the Still works, for the exhaling Vapour ſufficiently to expand it ſelf in the Cavity thereof; which by the Liquor contain'd in the Tub encircling the Circumference of the Globe, immediately condenſes the Vapour; thus moving perpetually in the Sphere of its Activity, into a Fluid Body; and as ſuch, is receiv'd at the Beginning of the Worm, by the Turnings of which it is compleatly condens'd and refrigerated, before it is diſcharg'd into the Under-Back, or receiving Can. The Advantages of which have been already partly prov'd, from what was premis'd, when I objected againſt the Uſe of Worms in general; the Principal of which was, That by all Stills working with Worms only, the moſt volatile and ſubtile Effluvia's of the Spirit were always loſt in Diſtillation, in which its purer Particles conſiſt; which by this new Method are center'd and fix'd in the Globe, as the Vapour is condenſing; and which there is no Poſſibility of loſing afterwards, provided the Water is ſhifted ſometimes in the Tub; which turning of the Cocks readily performs, without any manner of Trouble, the Waſte Pipe carrying off the hot Water; and the other coming from the Liquor Back, readily ſupplies the Tub with cold. Which undeniably proves what I before aſſerted, both of the Uſefulneſs of its Diſpatch, as well as the Advantages obtain'd by a Spirit preferable for its Redolency to any other, in that no Part of its moſt refin'd and eſſential Particles are loſt, but all are fix'd and center'd in the Body of the Fluid. Another Advantage is, that if your Fire is not ſo nicely govern'd, as in the common Way of Diſtillation, 'tis leſs ſubject to make your low Wines foul: For as the Vapour violently ruſhes from the Head and Back of the Still, is partly intercepted by the Turnings of the Worm, and occaſions that Inconveniency; ſo in this 'tis wholly prevented by the capacious Form of the Globe, which readily receives the flying Vapour ariſing from the boiling Waſh, and as freely gives Permiſſion for its Circulation in the Cavity thereof; and by Conſequence is the leſs ſubject to the Inconveniency before recited.

Thus having finiſh'd what I promis'd of Diſtillation in general, as to the Invention of this new Engine; I now come to treat of the Art it ſelf, in a Method totally different from the common Way of Practice; which, as it may give a new Turn to the Thoughts of many profeſſing the ſaid Art, ſo I doubt not but the Advantages ariſing therefrom will be equally ſatisfactory.

The Spirits generally made in this Kingdom are produc'd from decay'd Wines, Cyder, Perry, ry, Fruit, Sugar, Moloſſoes, Malt, *&c.* the Difference and Goodneſs of each being the reſult of what they are made from, and the Art of the Artificer, eſpecially in the four laſt, operating accordingly, each ſtriving by different Methods of fermenting, rectifying, *&c.* to exceed each other; which the Difference of Spirits extracted from one and the ſame Ingredient, evidently evinces the different Art of its Profeſſors; and within theſe few Years have very much, by various Experiments, improv'd themſelves by the Addition of different Ingredients in Fermentation or Rectification, to give a final Flavour to the ſaid Spirits. But amongſt all their Inventions, there is nothing that has rack'd their Wits more, than ſtriving to imitate *French* Brandy. Hence *Spiritus Nitris Dulcis*, the Infuſion of Oaken Chips, *&c.* have had by turns their different Trials; yet are ſtill very defective of anſwering what was propos'd from them: Tho' I deny not each give a peculiar Flavour to the Spirits they are mixt with, whether Sugar, Moloſſoes, *&c.* altho' 'tis impoſſible Spirits extracted from ſuch glutinous Bodies can be ever brought to that Perfection, as to be impregnated with thoſe Particles of Sulphur exhaled to their moſt volatile and ſubtile Effluvias by Fermentation, as is produced from Wines themſelves: The Reaſon of which, when I come to ſpeak of Spirits extracted from Fruit, I ſhall readily define.

As decay'd Wines diſtill'd come the neareſt to *French* Brandies, ſo the Reaſon thereof is very plain: For the Brandies made in *France* being diſtill'd from the thinneſt and pooreſt of Wines, afford the fineſt Brandies; which proceeds from the fix'd Salts and Sulphurs with which thoſe Wines are impregnated, by long Fermentation changing from a grateful and pleaſant Odour to a volatile acid Pungency, by ſome of the ſubtiliz'd

Effluviums of the Spirits evaporating, and the Saline Particles too powerfully expanding themſelves through the Subſtance of the Liquor, in Proceſs of Time impregnate the ſame with that volatile, acid Taſte and Smell, as is perceptible therein. Which is the Reaſon why *French* Brandy is preferable to any others diſtill'd from Wines, in as much as a Portion of that acid Volatility ariſing in Diſtillation, gives that grateful Odour and Taſte to the Spirits diſtill'd therefrom; which vellicating the nervous Membrane of the Tongue, afford that delightful and pleaſant Taſte, ſo conſpicuouſly grateful to the true Judges thereof.

As what has been premis'd, ſufficiently proves the Nature of all Vinous Spirits to be preferable to any others, both for Odour and Flavour; ſo it as equally demonſtrates the Impoſſibility of making any others, extracted from Sugar, Moloſſoes, &c. to come nigh or equalize the ſame; from the following Conſiderations.

Firſt, From the conſtituent Principles of which each Body conſiſts.

As to the Juice of the Grape or Muſt, when firſt expreſs'd, there is no Occaſion for the Addition of any other Body, (as there is in Beer) to promote its Fermentation: For it is ſo fully impregnated with ſuch active Principles, that of its own Accord it very readily throws it ſelf into a violent Fermentation, proceeding from the different Particles of which it is compos'd, invelop'd or ſheath'd in each other, till ſeparated by Fermentation, the ſpirituous and more ſubtiliz'd Particles violently ſhaking the groſſer Fæculencies; till by a continued Fermentation, the whole Compoſition in Time is chang'd from a thick to a lucid Fluid: The groſſer Body ſubſiding to the Bottom, conſiſts of the Salt and Sulphur, with a ſmall Portion of Spirit, and a larger Portion of earthy Particles; which, whilſt the Fermentation is continued, gradually ſeparate, or ſometimes mutually uniting with each other, are fix'd to the Sides of the Veſſel, under the Form of Tartar. In the Interim, the Fluid, thus diveſted from its groſſer Body, is, by Time, render'd clear and very Spirituous: Which proves the vaſt Diſparity there is between Vinous Spirits, and thoſe extracted from groſſer Compoſitions; for the other is ſo loaded with glutinous and aqueous Particles, that it can never ferment of it ſelf, ſo as to yield a Spirit, unleſs aſſiſted by a large Portion of Yeſt, and other Materials, to promote a Fermentation; by opening its viſcous Body, ſo as to make way for its Saline, Sulphureous, and Spiritous Particles to exert themſelves; which when accompliſh'd, are far ſhort of thoſe extracted from Wine.

This being undeniably prov'd, I now come to ſhow, how from Fruit, and other Materials, ſuch a Spirit may be extracted, as ſhall come the nigheſt to *French* Brandy of any Spirit whatſoever, that of Wine excepted: Which it will nearly equalize.

The PROCESSES.

TO every Hundred of fine *Malaga* Fruit add Forty Five or Fifty Gallons of Water: Let there be in the bottom of the Tub a Cock and Tap-Ouze, as is made uſe of in Brewing: Let them ferment of themſelves ſeveral Days, ſtirring them down two or three times in a Day. Draw off the Liquor into a cloſe Cask. Add to each Quantity of Liquor, in Proportion to the Quantity of Fruit, two of the following Balls: Take three Quarters of a Pound of Bean Flower, and

a Quara Quarter of a Pound of *Salt-Petre*; mix them well together, by firſt rubbing your *Salt-Petre* fine; beat them into a Paſte with ſome of the ſtrongeſt Vinegar; make them into Balls, about the bigneſs of a Pullet's Egg; dry them in the Sun, and put one or more into each Cask of Waſh; expos'd in Summer to the Heat of the Sun, and in Winter in a cloſe Room with a Stove in it. Keep open the Bung ſometimes; let it ſtand till it ſmells very ſowre, which the Compoſition will very much contribute to, by promoting with the Sun's Influence a new Fermentation; and the fix'd Salt contain'd in the Nitre expanding it ſelf gradually through the Subſtance of the Fluid, gives it that volatile Acidity, on which the deſir'd Fragrancy of the low Wines made into Spirits depends. Then, to give it a Vinous Flavour, make uſe of the following *Arcanum:* Take a Hundred or more of new and ſound Prunes, bruiſe them well, add about Twenty Gallons of Water, ferment as you did your Fruit for ſeveral Days; draw off your Liquor, which keep in a cloſe Cask, for the Uſe that ſhall be afterwards mention'd. Put your Prunes in a ſmaller Cask cloſe cover'd; let them ſtand till they grow ſowre; take five or ſix Gallons of your Spirit when made; put your Prunes into your Still, and the Prune Waſh, mix your Spirit with them, diſtil with a very gentle Fire; ſo will your Spirit aſcend, impregnated with all that eſſential and volatile Acidity from the Prunes, a Gallon of which is enough to flavour half a Hogſhead of your Spirit made from your Fruit; with which you may flavour other Spirits, to enhanſe the Price of them. 'Tis impoſſible to expreſs how fine a Spirit may be thus made, but by the Experience I have had of it.

As to your Fruit, it will make very good Vinegar, if you barely cover it over with warm pale Malt, letting it ſtand ſeveral Days. Draw off your Liquor as you did the other, and proceed in the ſame manner, by adding a Ball or two of your Compoſition. When your Liquor is drawn off from your Fruit, it will in a few Days grow very hot, if cloſe cover'd. When that Heat is off, throw up your Liquor, if fine, upon your Fruit, which will help to ſharpen it very much; and by ſtanding thereon, and ſhifting it, 'twill be converted into good Vinegar. When it is ſharp enough, draw it off, and fine it down with Izing-glaſs.

Explication of the PROCESS.

THE Fruit being no more than a dry'd Grape, retains in a great meaſure its fix'd Salt, Sulphur and Spirit, which lie ſluggiſh and inactive, as long as they are cloſe pack'd together: But when they are infus'd in Water, the Fluid entring the Pores of the Fruit, thoſe fermentatious Particles contain'd in its Body begin now to exert their Power, and ſo very readily ferment of themſelves, (like the Juice of Grapes, altho' not ſo violently,) without the Addition of any other Material to promote them; which ſhows that in their Nature they are replete with the Particles before-mention'd. The Waſh, with the Addition of the Compoſition, is expos'd for ſome Time to the Heat of the Sun, which gives it a new Turn, and very much contributes to the Completion of its Acidity; on which, with the Addition of a Portion of its Spirit when diſtill'd, impregnated with the Prunes, that vinous Fragrancy ſo like to that of *French* Brandy, is perceptible.

The Prunes are firſt fermented to open their Body, as that of the Fruit; otherwiſe that acid Pungency could not poſſibly be obtain'd, which is the Conſequence of a new Fermentation after they are diveſted of their Liquor; and when diſtill'd with the Waſh and Spirit, the Spirit riſes as before-mention'd, replete with all thoſe Qualities requiſite for compleating the thing deſign'd.

Of Artificial WINES.

AS the Doctrine of Fermentation has been already explicated in a Method totally new; ſo in treating of this Subject, its Effects will be ſo remarkably conſpicuous, that the Proceſſes thereof, as they are vaſtly different from thoſe already mention'd, ſo the Conſequence deducible from the ſame will be equal thereto.

In order to which, I ſhall firſt ſpeak of the making of Artificial Wines, as hitherto practis'd; which being compar'd to the ſubſequent Method, I flatter my ſelf from the Diſparity of the Compariſon, that every impartial Perſon will readily acquieſce, that the ſtated Rules here laid down, are preferable to any others ever yet publiſh'd on this Subject.

The Wines frequently made in this Kingdom, are thoſe of Gooſeberries, Currants, Mulberries, Elderberries, Raſberries, Cherries, Damſons, &c. and thoſe from foreign Materials are *Malaga* Raiſins, &c. So that as the Method of making any from Fruits of the *Britiſh* Production, is one and the ſame, I think it needleſs to treat of each; but having demonſtrated any of them, the Method of making any of the reſt is readily comprehended.

Of GOOSEBERRY *or* CURRANT WINE.

TO a Quantity of either of the Fruits bruiſed, is added diſcretionally by the Makers a Quantity proportionate of Water, in which they are infuſed for ſome time: Then they are ſtrain'd off; and to every Gallon of Liquor they add ſo many Pounds of Sugar: Then they barrel it up, with ſome Flour and Whites of Eggs to promote its Fermentation, and fine it down. Others add toaſted Bread ſmear'd over with Yeſt, when they caſk it up; and others add White-Wine, to increaſe the Charge more than the Goodneſs, each thinking their own Way beſt. But how defective all are in obtaining the true and eſſential Flavour of the Fruits by either of the preceding Methods, Reaſon will, upon comparing the Inconveniencies attending the ſame, ſufficiently refute them. Firſt, if your Fruits and Liquor ſtand too long together, inſtead of obtaining a Vinous Flavour, the fix'd Salts included in your Fruits will impregnate the Liquor with that Acidity, that when it comes to be mix'd with your Sugar, it will not fail of changing, in Time, rather into a Vinegar, than a Vinous Body. In the next place, as the Sugar is the Baſis upon which the Strength and Preſervation of your Wine depends; ſo by this Method its glutinous Subſtance, in which its Spirituous Quality conſiſts, is not ſufficiently opened by ſuch a Fermentation, as that its Sulphureous Particles uniting with the Fluid already impregnated with your Fruits, is requiſite for its Preſervation.

Which

grancy ſo like to that of *French* Brandy, is perceptible.

The Prunes are firſt fermented to open their Body, as that of the Fruit; otherwiſe that acid Pungency could not poſſibly be obtain'd, which is the Conſequence of a new Fermentation after they are diveſted of their Liquor; and when diſtill'd with the Waſh and Spirit, the Spirit riſes as before-mention'd, replete with all thoſe Qualities requiſite for compleating the thing deſign'd.

Of Artificial WINES.

AS the Doctrine of Fermentation has been already explicated in a Method totally new; ſo in treating of this Subject, its Effects will be ſo remarkably conſpicuous, that the Proceſſes thereof, as they are vaſtly different from thoſe already mention'd, ſo the Conſequence deducible from the ſame will be equal thereto.

In order to which, I ſhall firſt ſpeak of the making of Artificial Wines, as hitherto practis'd; which being compar'd to the ſubſequent Method, I flatter my ſelf from the Diſparity of the Compariſon, that every impartial Perſon will readily acquieſce, that the ſtated Rules here laid down, are preferable to any others ever yet publiſh'd on this Subject.

The Wines frequently made in this Kingdom, are thoſe of Gooſeberries, Currants, Mulberries, Elderberries, Raſberries, Cherries, Damſons, *&c.* and thoſe from foreign Materials are *Malaga* Raiſins, *&c.* So that as the Method of making any from Fruits of the *Britiſh* Production, is one and the ſame, I think it needleſs to treat of each; but having demonſtrated any of them, the Method of making any of the reſt is readily comprehended.

Of GOOSEBERRY *or* CURRANT WINE.

TO a Quantity of either of the Fruits bruiſed, is added diſcretionally by the Makers a Quantity proportionate of Water, in which they are infuſed for ſome time: Then they are ſtrain'd off; and to every Gallon of Liquor they add ſo many Pounds of Sugar: Then they barrel it up, with ſome Flour and Whites of Eggs to promote its Fermentation, and fine it down. Others add toaſted Bread ſmear'd over with Yeſt, when they cask it up; and others add White-Wine, to increaſe the Charge more than the Goodneſs, each thinking their own Way beſt. But how defective all are in obtaining the true and eſſential Flavour of the Fruits by either of the preceding Methods, Reaſon will, upon comparing the Inconveniencies attending the ſame, ſufficiently refute them. Firſt, if your Fruits and Liquor ſtand too long together, inſtead of obtaining a Vinous Flavour, the fix'd Salts included in your Fruits will impregnate the Liquor with that Acidity, that when it comes to be mix'd with your Sugar, it will not fail of changing, in Time, rather into a Vinegar, than a Vinous Body. In the next place, as the Sugar is the Baſis upon which the Strength and Preſervation of your Wine depends; ſo by this Method its glutinous Subſtance, in which its Spirituous Quality conſiſts, is not ſufficiently opened by ſuch a Fermentation, as that its Sulphureous Particles uniting with the Fluid already impregnated with your Fruits, is requiſite for its Preſervation.

Which is evident from this, that many of the Artificial Wines ſo made, in a little time turn ropy and ſowre; which proceeds in a great meaſure from the Sugar not being throughly open'd by Fermentation. That its Spirituous and Sulphureous Particles are partly intercepted by this Method of proceeding, from a thorough Expanſion of themſelves in the Subſtance of the Fluid, on which its Preſervation principally depends, is evident: Which Objection readily leads me to confirm what I before propos'd, of making any of the recited Wines, to be not only more fully impregnated with the eſſential Flavours of the Fruits from whence they are made, but totally prevents any of thoſe Accidents before-mention'd.

* * *

The PROCESS.

TAKE Two Pounds of Loaf Sugar to every Wine Gallon of fair Water: Let your Sugar be thoroughly diſſolv'd: Then add a Quantity of new Ale-Yeſt proportionate to that of your Liquor: Cover it up cloſe: When it begins to ferment, ſtir down your Yeſt gently; but do it not too often, leſt your Liquor ſhould taſte of it: Let the Fermentation continue for three or four Days, till you find the Body of the Sugar well divided, and your Liquor taſte ſtrong and ſpirituous; at that time draw it off clear from your Yeſt; which you muſt do before your Yeſt ſubſides to the Bottom: Then have in Readineſs another open-headed Caſk, with a Tap and Tap-Ouze at the Bottom; in which put your Fruit whole and thorough ripe, as * Gooſeberries, Currants, Mulberries, Cherries, *&c.* in Proportion to the Quantity of Liquor before fermented: Six Pound will be full enough to every Gallon of Liquor. Pour your fermented Liquor upon them firſt: Set in a cool Place: Cover them up cloſe with Cloths, and the Head of the Cask: Let them ferment ſeveral Days, ſtirring them gently down; and when you find the Liquor taſtes well impregnated, draw it off into a cloſe Cask, which muſt be nearly fill'd: In which put to every Twenty Gallons of Liquor thus drawn off, a Quarter of a Pound of Cream of Tartar finely powder'd, and an Ounce of Izing-glaſs diſſolv'd and ſtrain'd, which in ſome Time will fine it down. Stop it up cloſe, till fit for Uſe.

Explication of the PROCESS.

THE Sugar being firſt diſſolv'd and then fermented, more readily inſinuates it ſelf into the Subſtance of the Fruit, which, as it is of a vinous Nature, promotes its Fermentation; and by uniting with the fix'd Salt contain'd therein, hinders it from too powerful an Expanſion, in which the acid Quality of the Liquor impregnated with the ſame conſiſts: Which by this new Method of the Sugars being previouſly fermented, totally prevents; and not only that, but is of an equal Service for preventing your Wines from being ropy. If your Wine is made from Gooſeberries; after your Liquor is clearly drain'd off, if you barely cover your Gooſeberries with Liquor made pretty warm, and expoſe them cloſe

* They may be gently bruiſed.

cover'd for ſome time to the Heat of the Sun, 'twill be converted into good Vinegar.

In this manner may any of the fore-mention'd Fruits be made into fine Wine, amongſt which that of Apricots is wonderful pleaſant; which you may cut in Quarters or Halves, leaving out the Stones and Kernels, and proceed as before. When your Liqnor is drawn from them, you may take them out whole without waſhing them; and with Loaf Sugar and Water boil'd into a Syrup, you may boil them a little time; and when cold, put both the Syrup and them into Glaſſes, which you may preſerve all the Year for Tarts, *&c.*

CLARY WINE.

TO every Hundred of fine *Malaga* Raiſins, add Thirty Five Wine Gallons of fair Water: Let them ferment ſeveral Days of themſelves, till the Liquor taſtes ſtrong and vinous, or till the Sweetneſs thereof is almoſt loſt. Put your Liquor, as before, into a cloſe Cask, with Cream of Tartar and Izing-glaſs: And to flavour it, ſome Days before you draw off all your Liquor from your Fruit, draw off three or four Quarts, and infuſe in it, in a cloſe Viol or Bottle, a good Quantity of Clary Flowers, with a Part of which you may impregnate the reſt of your Liquor before you ſtop it up; taking care you uſe not too much of the Infuſion, but only enough to give it a true Flavour. This comes the neareſt to *Rheniſh* Wine of any.

BLACK-

BLACK CHERRY WINE.

TO every Hundred of *Malaga* Raiſins add Forty Gallons of Water: Let them ferment for ſeveral Days, as that of Clary Wine. When the Liquor is drawn off, add Six Pounds of Black Cherries to every Gallon: Ferment them together for three or four Days, or until the Liquor is deeply tinctur'd: Draw off; and to this Quantity, when you put it up, add two Ounces of Roach-Allum in fine Powder, and the Whites of Six Eggs well beaten into a Froth: Mix all together, and ſtop it up cloſe.

Elder Wine may be made in the ſame Nature.

After your Liquor is drawn from your Cherries, you may put them into a Still, with a ſufficient Quantity of Water, and diſtil with a gentle Fire: From which you may extract a very fine Spirit.

The ſame may be done from your Gooſeberries, Currants, *&c.*

The APPENDIX.

AN Introductory Diſcourſe to the following Sheets, may ſeem not only needleſs but impertinent, as they barely are the Continuation of a former Treatiſe; the Author of which has founded his Theory upon chymical Principles, taken from that excellent Practitioner, the Learned Dr. *Willis* in his Diſcourſe *De Fermentatione*, which he hath Copy'd with good Judgment; nor could he have choſen a better Author upon this Subject. And as to the practical Part, his new Engine Still muſt be owned to be an ingenious and uſeful Contrivance, tho' as yet not brought into common Uſe, thro' a Fate that uſually attends new Inventions, however ſerviceable in Appearance.

As to the Additions here made, I can truly ſay, that the Receipts are taken from the beſt Manuſcripts, ſuch as have been long uſed in (and approved by) ſeveral Families of good Account; and upon Tryal, I believe, will be found to anſwer the Expectation more fully and ſatisfactorily, than ſuch as are uſually inſerted in Works of this Kind. And though I have delivered the Preſcriptions in a genuine Form (and in the ſame Words) as I received them, yet I have taken the Liberty to make ſome Reflections where I judged the ſame might be improved, and made to more Advantage; interſperſing here and there ſome medicinal Remarks, which tho' not many, may yet give ſome uſeful Hints to the Admirers of theſe Liquors.

As to the Doctrine of Fermentation I have purpoſely omitted it. The former Part of this Treatiſe may give ſome Light into this Matter; and further Satisfaction may be had from another Diſcourſe upon this Subject, publiſh'd by Mr. *Lintot*, entitled, *The Nature of Fermentation explain'd*, &c.

Elder Flower Wine.

TO ſix Gallons of Water, add twelve Pounds of fine Sugar, and the like Quantity of Raiſins of the Sun (or *Malaga*) ſhred ſmall; boil them together over a clear Fire for an hour, then take them off, and put 'em into a Stand, or open-headed Wood Veſſel: And when the Liquor is Blood-Warm, put in half a Peck of Elder Flowers pick'd clean from the Stalks. Let the whole ſtand all Night, well covered up, and the next Day, add thereto four Spoonfuls of new Ale Yeſt, and ſix Spoonfuls of the Syrup of Lemons (or inſtead thereof the Juice of two or three Lemons); cover the Veſſel over again, and after it hath ſtood two Days, Tun it up in a well ſeaſoned tight Caſk, and there let it remain for ſix Weeks; after which Time you may draw it off into another Caſk of the ſame bigneſs, and diſſolving half an Ounce of Fine Iſing-glaſs in a little of the ſaid Wine over a gentle Fire, mix it with the reſt, and when it hath ſtood a Week, or thereabouts, if it be fine enough, bottle it off.

Reflections upon this PROCESS.

ALtho' the Wine made after this manner, taſtes exceeding well, and bears a very good Body, yet in my Opinion the ſame may be much improved, by omitting the boiling of the Raiſins (according to the Method of other Preſcriptions of this kind) whereby the fineſt and moſt ſubtle Fugitive Particles of the Grape might be preſerved and communicated to the Wine, which otherwiſe by long Coction, are in danger of evaporating, and being wholly loſt: therefore I ſhould prefer a ſimple Infuſion of them (after they are well Shred or Bruiſed) in the boiled Liquor, after the ſame manner as is uſed in the making of Raiſin Wine; proceeding in the reſt of the Compoſition, as afore directed.

Another ELDER FLOWER WINE.

TAKE Six Gallons of Water, add thereto fifteen or ſixteen Pounds of good *Lisbon* Sugar (or if you would have it finer, you may take the like Quantity of Powder Sugar) boil them together for an Hour, taking off the Scum, ſo long as it riſes: Which done, and the Liquor removed from the Fire, put it into a Stand, and when it is of a due Warmth, add to it three or four Spoonfuls of new Yeſt; cover up the Veſſel Cloſe, and let it ſtand to Work for ſome Days, until the Liquor hath acquired a Vinous or Spirituous Taſte; then towards the Turn or Declenſion of the Fermentation, put in half a peck of freſh gathered Elder Flowers, and let it ſtand two or three Days longer, till the Liquor hath done working, ſtirring it about twice a day, or oftner if need be; after that, run it through a flannel Bag, and ſo Tun it up in a fit Cask, bung it well down, and when it hath ſtood ſix or eight Weeks rack it off, and if it be fine, Bottle it up.

ELDER WINE.

THIS Proceſs, as it affords a Wine much cheaper than the former, ſo alſo exhibits a Method of obtaining the ſame in much greater Perfection: And that is, by fermenting the Liquor for ſome time, before the Elder Flowers are put in: Whereby the Body of the Sugar will not only be more broken, and intimately united and commixed with the Liquor, the Fermentation it ſelf proceeding more briskly and regularly at the ſame time; but even the Wine will acquire a better Flavour from the Flowers, than otherwiſe it would do. For by a longer Maceration or Infuſion of them, their Groſſer and Earthy Parts are drawn out and communicated to the Liquor, and conſequently they impart a very diſagreeable Guſt or Flavour; as is moſt frequently obſerv'd in theſe Sort of Wines, made of Aromatick Plants or Flowers, whoſe fine volatile Parts, are ſo far from bearing a brisk or long continued Fermentation, that even a too long continued Infuſion of 'em deſtroys their beſt Qualities. For which Reaſon ſome Perſons of Judgment have utterly rejected this Method. And with this view I have alſo here abridg'd the Time of the Maceration or Infuſion of the Flowers in the Wine; tho' what I have allow'd is fully ſufficient to extract their Virtues, and impregnate the Whole with their moſt Active and Medicinal Parts; and the Flowers of Elder abound in theſe, as we are inform'd by the Learned *Simon Pauli*, and other good Botaniſts.

Clove-Gilly-Flower Wine.

TO every Gallon of Water take two Pounds (or if you would have it ſtronger, two Pounds and an half of Sugar) boil them together for an Hour, taking off all the Scum as it riſes; then pour it hot upon your Flowers (the Whites being cut away) which muſt be one Peck to every Gallon of Water, put into a wooden Veſſel, and immediately covered up with a folded Sheet, and a Blanket, three or four times doubled. Let them infuſe twenty four hours; after that, run the Liquor through a thick Jelly-bag, and Tun it up Milk-warm. Barm it (if there be occaſion) with a Toaſt ſpread over with Yeſt, and when it has done working, ſtop up the Veſſel cloſe, and let it ſtand till the Liquor becomes perfectly fine and clear, which may be in a Months Time, but the longer it ſtands the better: Then you may rack off the Lees, and bottle it up, with a piece of Loaf Sugar put into each Bottle. It will be neceſſary to keep a Tap in all your Veſſels, that you may know when they have fermented enough; but be careful to keep the Veſſels ſteady and unſhaken, when you draw off your Wines.

Cowſlip Wine is made much after the ſame manner, ſaving that this requires Loaf Sugar, which the other needs not; and that 'tis uſual with ſome to add to each Gallon of Liquor, the Juice of two or three Lemons, with a little of their Peel, cut ſmall, then 'tis to be Tunn'd up, and wrought as the other; but if it be half a Year or even longer, before you bottle it, the Wine will drink the finer, and better for it.

Remarks on CLOVE-GILLY-FLOWER WINE, *&c.*

IN theſe two laſt Proceſſes, I have left the Time of the due fermenting and ſettling of the Liquors partly undetermined, in reſpect of ſeveral Occurrences, that may quicken, or retard the Operation; for 'tis well known to the Brewers and Vintners, that an Exceſs of Quality in the Air, whether it be Heat or Cold, or even a cloſe ſtopping up of the Veſſel, ſo as to hinder the Admiſſion of that Element, are the greateſt Obſtacles to the working of their Liquors: As on the other hand, Reſt, a moderate Degree of Warmth, and a free Acceſs of Air, with ſome other Accidents, are the Encouragers and Promoters of it: Therefore no certain Space of Time can be exactly limited for this Work; but the moſt general and certain Rule for the Preſervation of the Liquor, is to ſtop up the Veſſel cloſe, as ſoon as the Fermentation abates, and the Yeaſt begins to fall to the bottom; for by this means a Stop is put to a further Ferment, and the Evaporation of the moſt Spirituous Parts, which if ſuffer'd to fly off, would leave the Reſidue flat and dead: And in this manner, (*viz.* cloſe Barrell'd up) the Liquor ought to ſtand for ſome Weeks or Months, according to the Body and Strength of the Wine; for ſome Wines will require even a full Year to perfect them; during which time, they depoſite their Feculent and

Dreggy Parts, and the remainder of the Liquor becomes more clear, fine, and better taſted than if uſed ſooner and unripened. Therefore 'tis held as a general Rule, that the longer any Vinous or Fermented Liquor (provided it be of a good Body) is ſuffer'd to ſtand (in a ſtrong well ſeaſoned Veſſel) the ſtronger and richer it becomes.

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Birch Wine.

TO every Gallon of freſh Birch Water put two Pounds of good clean Sugar. Let the Water boil before the Sugar be put in, and keep it boiling over a clear Fire for an Hour and an half. Then take it off, and when it is almoſt cool, Barm it, and let it work (in an open-headed Veſſel,) for three or four Days. This done, to each Gallon of Liquor put one Pound of *Malaga* Raiſins, pickt clean from the Stalks and ſhred; afterwards Tun it up into a well ſeaſoned Barrel, ſtop it very cloſe, and let it ſtand twelve Months. If it be not fine enough, draw off a Quart, diſſolve in it one Ounce of Iſinglaſs, and put it to the reſt of the Liquor, after it is clean drawn off from the Raiſins, and let all be put together into a clean Caſk, and ſtand a Month before it is Bottled.

If this Birch Wine be made with a fine Powder or Loaf Sugar, it will in Time become as Rich as White-Wine.

There are ſome, who make it without Raiſins, adding a greater Proportion of the Sugar (as three Pound and an half) to every Gallon of new drawn Birch Water: Which ought always to be Boil'd a-while, and clean ſkimmed, before the Sugar be put to it; and then the Boiling is to be continued as above directed, and the Scum taken off as it riſes, 'till the Liquor be perfectly clear; and when removed from the Fire and cooled, 'tis to be Barmed, and ſuffer'd to Ferment in an open Veſſel for four or five Days, ſtirring it in the mean time often about; then to be put into a ſuitable Cask, which it ought exactly to fill, and when bung'd down, it may ſtand till *Michaelmaſs*, (or longer) before you rack it from the Leas, either into another ſeaſoned Cask, or Bottles, according as it is more or leſs fine.

And here it muſt be obſerv'd, that all artificial Wines deſigned for long keeping ſhould be put into well ſeaſoned Veſſels, *viz.* ſuch as have been uſed for a like Liquor before; and therefore an old ſeaſoned Wine Veſſel, is the propereſt to be choſen, as containing many rich and ſpirituous Particles, which are afterwards imparted to the contained Liquor. With this view, 'tis cuſtomary with many (in caſe they want an old ſeaſoned Veſſel) to rince out a new Cask with a pint of Sack, or ſome other rich Wine, as judging the Liquor will retain the Taſte and Flavour of it; which altho' it may in ſome Meaſure hold good, yet can't be ſuppos'd to be altogether ſo effectual, as may be obtained from a Veſſel which has imbib'd a great quantity of the vinous fermenting Particles; which *Helmont* believed were ſo fixed in the Wood, as to communicate a fermenting Quality, or Motion, to any Liquor (of that Nature) committed to them, and that, even as long as the ſaid Veſſels endured. And this is ſo well known to the Dealers in theſe Sort of Goods, that they will never (if they can help it) make Choice of a new unſeaſoned Veſſel, which will not only ſuck up

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a great Quantity of the Liquor put into it, but will alſo render the remainder Dead and Flat.

Before I conclude this Subject, I cannot omit taking Notice, that among all the Tribe of artificial Wines, or ſuch as are drawn from our own Product, there are few or none that ſeem ſo Medicinal, as the Elder Flower, and Birch Wines. A ſimple Infuſion or Decoction of the ſaid Flowers in Milk or Whey, has been recommended as a good Preſervative againſt an *Eryſipelas*. And an eminent *Daniſh* Phyſician teſtifies, that he was thereby freed from that Diſtemper, to which he had long been ſubject. And as to the Latter, the ſame Phyſician tells us, that the Juice of the Birch-Tree drawn in the Spring, is very ſerviceable for diſſolving the Stone in human Bodies, that it opens the Veſſels of the Liver, and is a Preſervative againſt the Jaundice. And *Etmuller* enlarging upon this Head, commends its uſe againſt the Scurvy, Stone, Gout, and all chronical Diſeaſes; in all which Caſes, ſaith he, it is a ſingular Remedy, as well Preſervative as Curative. And the illuſtrious *Boyle*, attempting the Experiment of its Efficacy in the Stone (upon the Credit of *Helmont*) expreſly avouches, that if the Birch Liquor was uſed freſh, as it came from the Tree, it would have a very good Effect in that Diſtemper, tho' none at all after it was once grown Stale. Whence we might be induced to hope that ſome of the ſaid good Properties might poſſibly remain after a Fermentation, and be found in the vinous Liquor. But this the ſaid *Helmont* adviſes againſt, and actually forbids the Birch Juice to be fermented, before it be given for that Purpoſe, leſt, ſaith he, from a cooling Liquor, as it is, it ſhould become heating. And this Objection I fear will ſtand in force, againſt all the reſt of this Tribe; for 'tis but too evident, that Fermentation does ſo alter the natural Properties of all vegetable Subjects, as to leave ſcarce any other Virtues reſiding in the Liquor, than what is common to moſt other ſpirituous Liquids. And yet in the mean time it muſt be allowed, that as a Tincture is communicated to ſuch Liquors, ſo of Courſe it may be hoped that ſome of the Virtues of it may reſide in them; and if ſo, that ſome Benefit may be reaped from them, tho' not in that extenſive Efficacy, which is to be obtained from other Preparations. But enough of this. I ſhall only mention one Inſtance that may ſeem to confirm, or at leaſt give ſome Credit to the Virtues of theſe artificial *Engliſh* Wines. And this I had from a Perſon of undoubted Veracity, who affirmed to me, that ſhe had frequently received more immediate Relief in a Loweneſs and Sinking of the Spirits, from drinking a Glaſs of Elder-Flower Wine, than from the moſt celebrated hyſterical Medicines. But yet, whether this was not owing rather to the ſudden Efficacy of the Spirit it ſelf reſiding in the Wine, than to any Virtue communicated from the Elder, is what I ſhall not undertake to determine; but I ſhall conclude this Diſcourſe with the Judgment of a Grave and Learned Phyſician, that when foetid Medicines are offenſive and prejudicial to hyſterical Perſons, the Odoriferous may be uſed with great Benefit and Advantage; the Truth of which Aſſertion he has confirmed by practical Examples.

GOOSEBERRY WINE.

TAKE (what Quantity you pleaſe) of ripe Gooſeberries, pick them, and bruiſe them, and to every Gallon of (whole Berries,) add three Quarts of cold Water, mix them very well together in an open-headed Veſſel, cover it well over with Cloths, and ſo let it ſtand 'till it riſe up, which will be in three or four Days time; then draw it off, and to every Gallon of this Juice, put three Pound of Powder Sugar (or if you would have it Richer, four) diſſolve it well therein, and let the Veſſel ſtand unſtopt, and ſlightly covered over, until it has done working. And this you may know by the ceaſing of the hiſſing Noiſe it makes during the Fermentation. Then clay it down cloſe, and let it ſtand till *October*, at which Time you may rack it off from the Lees, and put it into the ſame Veſſel again (being firſt well cleanſed) with one Pound of Sugar added to it; then ſtop the Caſk very cloſe, and let it ſtand till *March*, and then Bottle it off.

This Proceſs affords us an excellent well taſted, and rich body'd Wine; which by a due Infuſion of the Fruit in Water (according to the uſual Method, ſome allowing two Days, others three or four) the eſſential Parts of the Fruit are the better extracted, and more intimately mixed with the Liquor, during the Fermentation, than if otherwiſe prepared. Neither is there any fear of its turning Ropy or Soure by ſuch Proceeding, provided the Berries are fully ripe; which muſt always be underſtood of all the Pulpy Summer Fruits; for if they be gathered too green, and not arriv'd to their full Maturity, their Juice will ſcarce be brought to Ferment at all, and thereby ſubject the Liquor to the recited Accidents: But when the Fruit is full ripe, the Juice immediately and ſpontaneouſly falls into a Fermentation, ſo as there is ſcarce ever required the Help of any other Ferment, than what their own luxuriant Particles bring along with them. Yet if the Weather ſhould prove unſeaſonably Cold, or any other Accident retard or ſlacken this inteſtine Motion, it may then be neceſſary to add an additional Ferment to it, as a little Ale Yeaſt, or a few Lees of Wine; which latter will much enrich the Liquor, promote the Fermentation, and impart a true vinous Flavour to it; which ſome good Houſewives being well apprized of, they add a Portion of ſome rich Wine to it, when they cask up their fermented Liquor.

BLACKBERRY WINE.

TO every Gallon of ripe Blackberries, add one Gallon of boiling Water (let the Berries be well bruiſed before the Water be put to them) then let 'em ſtand twenty four Hours, ſtirring them about twice or thrice a Day; after that run the Liquor through a hair Sieve, and to every Gallon of it put two Pound and an half of Powder Sugar (or a good clean natural Sugar) let it ſtand twenty four Hours more in the Veſſel unſtopt, ſtirring it up now and then; afterwards cloſe it up well, and let it thus remain for three Months, then draw it off into a clean Veſſel, with a lump of Sugar put into it. Stop it up cloſe, and in a Week's Time, if you ſee it be fine enough, you may Bottle it off.

This Blackberry Wine (as I have elſewhere remark'd) if it be well made, and allow'd a due

Time to ripen, and depoſite its more fixed and earthy Parts, comes the neareſt in Taſte and Goodneſs to *French* Claret, of any that can be produced from our own vegetable Growth; but then the Juice muſt not be too much diluted with Water; for it may be accounted as a general Rule, that the more this and the like Juices are let down with Water, the weaker and worſe taſted do their Wines become: Therefore I think the ſame Proportion of Water preſcribed in the foregoing Gooſeberry Wine, may be ſufficient here, conſidering that the Quantity of Sugar is alſo leſs in this, than in the other; which, for any Reaſon that I can ſee, ought to be nearly equal. Therefore I have annexed the following Preſcription, which affords a ſtrong, well body'd Wine, not inferior to the beſt Claret.

Take to every three Quarts of Blackberries, two Quarts of Spring Water, boil the Water and let it ſtand till it be Cold; then put it upon the Berries in a Stand for eight Hours, afterward draw off the Liquor while it will run clear, and ſtrain the reſt through a Jelly-Bag; and to every Gallon of this Liquor put three Pound of good Sugar; Barrel it cloſe up; and at the end of three Months, clear it from the Settlement, (which filter through a Bag); clean the Caſk, and put your Wine in it again, with a Lemon ſliced, adding to each Gallon of Wine half a Pound of Loaf Sugar; then let it ſtand till *March*, and Bottle it off.

As this is an excellent well taſted Wine, ſo alſo is it taken to be ſomewhat Medicinal, being reckon'd by many as a Specifick for the Piles; and there is now living a reverend Gentleman who aſſur'd me, that he hath more than once freed himſelf from the danger of a Fiſtula, which he had cauſe to be apprehenſive of, by only drinking this Wine daily for a conſiderable Space of Time. Yet whether this Perſon's Caſe was really ſuch as he apprehended, is what I dare not venture to determine; altho' I am inclined to think it was from the Experiments of many, who have tried the happy Effects of it. And 'tis what *Hippocrates* himſelf, *De morb. mulier.* pag. 199. doth commend for healing Ulcers and Excreſcences ariſing near the Pudendum. The Stipticity and Auſterity of this Fruit, which it retains, even after Fermentation, may likewiſe recommend it as a good Aſtringent, equal in all Caſes, perhaps, to the Foreign Red Wines.

RASPBERRY WINE.

TAKE ripe Raſpberries, cruſh them with your Hands, and upon every Gallon of the Fruit pour one Gallon (or if you would have the Wine ſtronger, three Quarts) of boiling Water; let them infuſe a Day and a Night, (ſtirring the Liquor about twice a Day); then ſtrain it through a hair Sieve, and to every Gallon of this Infuſion, put two Pound and an half of good Sugar. Let it ſtand to diſſolve twenty four Hours; ſtir the whole together, and if the Fermentation do not proceed to your Mind, Barm it with a little Yeaſt ſpread over a Toaſt. Let the Veſſel be ſlightly cover'd over, until it has done working; then clay up the Veſſel cloſe, and let it ſtand half a Year, (or longer, if it be not then fine enough,) and at laſt Bottle it.

Some Perſons in making this and other Wines abounding with luxuriant Juices, conſiſting of very active and fermenting Particles, do uſe to draw it off from the Lees before they put

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it into the Cask they deſign to keep it in; and as often as that Accident happens (*viz.* of Fretting or Fermenting anew) they repeat the Operation of racking the Liquor off: But how detrimental this Proceeding is to the Wine, both Reaſon and Experience it ſelf will ſhew. For theſe dreggy Parts are the moſt Subtle and Active Principles of the Liquor, whereon the Wine (after the Veſſel is bung'd down or cloſe ſtopt up) begins to feed, and thereby daily improves in Strength and Goodneſs. But when by this Method it is robbed of the ſame, we generally find that ſuch Liquors will not keep long before they turn Flat and Vapid. Therefore if theſe Wines ſhould by any Accident happen to Ferment anew, the only and moſt ready way to check it, is by burning Sulphur under the Cask, which immediately reſtrains and repreſſes the Fury of the Fermentation, and cauſes the fermenting Particles to ſubſide. And upon this Conſideration it is, that others uſe to ſeaſon their Wine Veſſels with putting a lighted Match of Brimſtone into them, and afterwards rincing them out with a little of the ſame (or any other Wine,) which is a good Precaution againſt the recited Accident, tho' not always to be depended upon.

It is remarked by ſome curious Obſervers, that this Berry affords a much thinner and more piercing Wine than the Bramble-Berry doth; whence it happens that they who drink this Wine in any conſiderable Quantity in the Evening, generally perceive two notable Effects from it the next Morning, a Reddiſh-Colour'd Sweat, and violent Pain in the Head; which ariſe from the volatile Salt and Sulphur wherewith the Raſpberry abounds above moſt other Fruits; and this made the Learned *Hoffman* affirm, that this Wine will greatly affect the Head and occaſion Drunkenneſs:

neſs: A neceſſary Caution to be obſerved by thoſe who are Admirers of theſe Liquors.

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RED CURRANT WINE.

TAKE your Currants, being full ripe, and cruſh them betwixt your Hands; there's no Occaſion to ſtrip them from the Stalks; then ſtrain your Juice through a Sieve, and to every Pint thereof (being firſt Boiled and Cooled again) add near one Pint of Water. To every Gallon of this Liquor, put three Pound of good fine Sugar, let it ſtand to diſſolve twenty four Hours (often ſtirring it about.) Then Tun it in a ſuitable Cask, and when the Working is over, cloſe it up, and let it ſtand for three Months: When you Bottle it, put a lump of Loaf Sugar into each Bottle. This will make the Wine drink brisker, and ſparkle much finer, than when it is omitted. It hath been ſurmiſed by ſome underſtanding Perſons, that if the Loaf Sugar be Powder'd, it will not be ſo effectual; as they ſuppoſe the Pores of the Sugar to contain a Quantity of Air, which by Reaſon of its Elaſtick and Expanſive Nature, cauſes that additional Fermentation, as ſoon as it is ſet at Liberty, by the removal of the Cork or Stopple.

But when the Sugar comes to be powder'd, and its Pores deſtroyed by that Means, they think it muſt become ineffectual and uſeleſs: But this does not always hold good; for there's ſcarce any Country Houſewife, who knows not how to recover her Ale, or Beer, when upon the Fret, or Pricking, by Bottling it immediately up, with a lump of ſuch Sugar as ſhe has at Hand; which being well Corked down, and ſuffer'd to reſt ſo for ſome Time, the Liquor will afterwards recover it ſelf, and appear Briſk, Lively, and well Taſted: Yet I do not deny, but that Loaf Sugar is the better when 'tis to be had; but in Country Places, where it may happen to be deficient, the other may well enough ſupply its Place, where the Colour of the Liquor does not forbid it.

GINGER WINE.

TAKE fourteen Quarts of Water, and one Ounce of rance Ginger ſliced, with three Pounds of Sugar; boil them over a clear Fire for half an Hour, then take them off; and when the Liquor is new-Milk warm, put into it three Lemons, with a little good Yeaſt; cloſe up the Veſſel and let it ſtand five Days. If it be wrought clear in that Time, you may Bottle it: If not, let it ſtand longer, until it be well wrought, and in ten Days after you may drink it.

Another ſtronger.

TAKE four Ounces of good rance Ginger, bruiſe it, and tye it up in a Bag; then boil it in three Gallons of Water for half an Hour, and put into it three Pounds of fine *Liſbon* Sugar (or if it be double that Quantity, it will not be amiſs); boil it again for half an Hour longer, skim the Liquor clean, as long as any thing riſes; and when it is lukewarm, add two Spoonfuls of Ale Yeaſt: Let it ſtand in a ſuitable Veſſel,

ſel, for a Week's Time, then Bottle it; and in a Fortnight more it will be fit for Drinking.

After the ſame manner may be prepared a Wine from *Angelica*, *Zedoary*, or any other dry'd Roots; only obſerving that the Roots, which conſiſt of very volatile Parts (and theſe are chiefly ſuch, as have an Aromatick Flavour, or Spicy pungent Taſte) will not endure long Boiling, without a conſiderable Loſs of their beſt Particles. Wherefore 'tis better to let ſuch have only a gentle Coction, or to put 'em in after the Liquor is removed from the Fire; which will be fully ſufficient to Extract (by the Help of the following Fermentation and Infuſion) the whole Virtues, Taſte, and Flavour of thoſe Ingredients. For which Cauſe, I ſhould adviſe, the Ginger to be added toward the latter End of the Boiling, as moſt conducible to obtain its Virtues; which if thus prepared will afford a noble Stomachick Liquor, which will not Ferment upon the Stomach, Pall the Appetite, nor fill the Head with Fumes, as moſt of the fermented Liquors prepared from cooling Vegetables too certainly will. And this was the Opinion of a very good Judge in theſe Caſes, who tells us, that all fermentable Bodies, tho' ever ſo Cold (ſuch as Currants, Gooſeberries, and the like Fruit, which in their own Nature are very Cooling) will notwithſtanding by this Management loſe their genuine Faculty, and become Heating, and ſo obnoxious to produce the recited Diſorders: But the Ginger being a warm, Aromatick, and Stomachick Ingredient, is not liable to the ſame Objections; (the Fermented or Vinous Liquor, ſerving as a Vehicle to convey its Virtue to the moſt principal Parts;) and muſt certainly prove uſeful to cold Stomachs, and ſuch whoſe Nature, or Animal Faculties, by reaſon of old Age, or ſome other Infirmities, grow Weak and Languid.

Orange Wine.

TAKE ſix Gallons of Water, and ſixteen Pounds of Sugar, with the Whites of nine Eggs beaten up to a Froth; mix them with your Sugar and Water cold; then boil the Liquor for an Hour, taking off the Scum ſo long as it riſes. After this remove it from the Fire, and when it is Milk-warm, put in the Rinds and Juice of fifty Oranges. When it is almoſt Cold, Barm it with ſix Spoonfuls of new Ale Yeaſt; then let it work two Nights, ſtirring it Morning and Evening. Laſtly, add to it two Quarts of White-Wine, with half an Ounce of Iſing-glaſs cut ſmall. Stop up your Veſſel very cloſe, let it ſtand five Weeks, and then Bottle it.

This is a ſtronger body'd Wine, than what is uſually made under this Denomination; the Quantity of Sugar generally allowed for this Wine, being only two Pounds to each Gallon of Water, which Deficiency of Strength (when the Wine is deſigned for keeping any while) is made up by adding, in lieu of the Wine ordered in the former Preſcription, the like Quantity of *French* Brandy; the Iſinglaſs, put into the Liquor when you cloſe up the Caſk, is deſigned to prevent the Trouble of racking off the Wine at three Weeks or a Months End, into another Veſſel, as commonly is practiſed by thoſe who omit this neceſſary Ingredient: And then they let it ſtand for a Month, or ſix Weeks longer, to become fine.

The Orange Peel is a grateful Aromatick Bitter, which loſes little or nothing of its Virtue in Fermentation; and therefore beſides its good Offices imparted to the Stomach, it may efficaciouſly be uſed in ſome feminine Caſes with great Proſpect of Succeſs, as the famous *Ludovicus Septalius* hath given us Cauſe to believe.

* * *

RAISIN WINE.

TO every Gallon of Water, take four Pound of Raiſins (*Malaga* are generally uſed) cut ſmall; boil your Water, and pour it boiling hot upon them; let them ſtand in an open-headed Veſſel for fourteen Days, ſtirring the Liquor about twice a Day; then ſqueeze out the Raiſins ſtrongly from the Liquor, and to every Gallon thereof put one Pound of Sugar, with two pennyworth of Iſinglaſs: Put up this Liquor into your Cask, preſerving a little of it to fill up the Veſſel, as it works over. When it hath done Fermenting, ſtop it cloſe, and let it ſtand as long as you conveniently can, before you Bottle it, (the uſual Time is about twelve Months) kept in a cool Place, and free from ſhaking. This Preſcription, as it takes in a full Proportion of Raiſins, and almoſt a double Quantity of Sugar to what is allowed in other Recipe's of this Kind, muſt neceſſarily afford a ſtronger and richer body'd Wine, than uſually is met with, provided it be well made. But I think there is one Objection to this Proceſs, and that is, the pouring the Water boiling hot upon the Fruit, whereas it ought rather to be put to them, (after it hath firſt been well Boil'd and ſuffer'd to Cool) when it is only Milk-warm, and then mix'd well together till all the Lumps of the bruiſed or ſhred Raiſins be broke, and incorporated with the Liquor. Then the Veſſel is to be cover'd over with Cloths, and ſuffered to Ferment as directed. By which means the eſſential Parts of the Raiſins will be Extracted, and better Preſerved, than by the foregoing Treatment; which muſt neceſſarily diſſipate ſome of their finer and more volatile Parts, in which their ſweet and moſt deſirable Flavour does probably reſide; the Fermentation being ſufficient to open their Body, and obtain what is neceſſary from them in the preſcribed Time. Laſtly, as this Liquor requires a thorough Fermentation, in order to give it a due vinous Taſte, it may not be amiſs to add a little new Yeaſt to it, when Tunn'd up in the Caſk, which muſt be well dried before the Liquor be put in, proceeding in the reſt as above-mention'd.

Cowslip Wine.

TO every Gallon of Water, put three Pounds of Sugar, boil them an Hour, and take off the Scum as it riſeth; which done, take the Liquor from the Fire, and pour it boiling hot upon your pickt Cowſlips (which muſt be eight Quarts to every Gallon of Liquor) cover up the Veſſel immediately with Cloths, and let them infuſe for twenty four Hours; then ſtrain off the Liquor from the Flowers, and to each Gallon of this Infuſion add one Lemon or two, with a little of the Peel, thin pared and ſhred. Barm it with a little new Yeaſt; and afterward, pour it from the Settlings into your Caſk; and when it has done working, ſtop it up, and let it ſtand a Month, then draw it off into a freſh Veſſel, putting therein one Pound of Loaf Sugar, and two Pennyworth of Iſinglaſs; let it ſtand ten Days, or a Fortnight, longer, and then Bottle it.

'Tis the Method of ſome Perſons to keep the Flowers in the Liquor for the Space of a Month, before they draw it off the firſt Time. But as twenty four Hours (or a little longer, if you perceive any Virtue remaining in them) is fully ſufficient to draw out all that is neceſſary from them, (or truly from any other Flower uſed this way) and a too long continued Infuſion, does generally give an ill Taſte, and diſagreeable Reliſh to the Liquor; I have made choice of this latter Way as more Commodious, and leſs Troubleſome.

Cowſlips are generally accounted Soporiferous (or apt to cauſe Sleep) and as ſuch are a very adequate or proper Ingredient for a made Wine: The Liquor it ſelf affecting the Head with Fumes and cauſing Drowſineſs (when taken to any Degree) falls in with the ſame Intention of the Flowers; and therefore this may not be an improper Liquor for ſuch as a retroubled with Watchings, and require a cordial ſleeping Potion. To effect this the more powerfully, and at the ſame time avoid giving too great a Doſe of a ſpirituous Liquor, it would not be amiſs to make a twofold Infuſion of the ſaid Flowers; which latter might be fermented with the Liquor, and ſuffer'd to remain therein, until the Wine was drawn off into a freſh Cask, and kept a conſiderable while afterwards, as ſix or eight Months, before it was Bottled; in which Time it would meliorate and become fine, and alſo loſe moſt of the earthy Taſte of the Flowers. By this Method might likewiſe be obtained a beautiful and agreeable Wine from the Corn-Poppies, by the Addition of a little Orange Juice and Peel, to correct and amend the Flavour; which in my Opinion, would be the moſt medicinal and uſeful Wine that is extant, not only for the recited Purpoſe, but for ſome others, that 'tis needleſs to mention a in Work of this Nature.

LEMON WINE.

TAKE ſix Gallons of Water, and twelve Pounds of Sugar (or if you would have it ſtronger, and fit for long keeping, eighteen) beat up the Whites of four Eggs, and mix all theſe together; ſet the Liquor over the Fire, and let it boil for an Hour, ſcumming it clean as the Scum riſes; and then removing it from the Fire, when it is almoſt cold put it into an open-headed Veſſel, with the Juice of 50 Lemons (let through a Sieve) and all their Rinds pared very thin, Barm it with new Ale Yeaſt, and let it work twenty four Hours (or if you pleaſe, two or three Days, for it will be no worſe for the Wine) then take off the Yeaſt, and Tun it up in your Barrel: When it has done working, cloſe it well up, and let it ſtand eight Weeks; then Bottle it, and in a Month's Time it will be fit for drinking.

If this Wine be made with the firſt Proportion of Sugar, it will keep a Year; but much longer, if with the Second.

MEAD.

TAKE five Gallons of Water, ſet it over a clear Fire, and when it is warm, put into it two Quarts of good Honey, and two Pounds of Sugar, with one Spoonful of Coriander Seed bruiſed, one Root of Horſe-Radiſh ſliced, and ſix Rances of Ginger; tye them up in a thin Rag, and let them boil over an hot Fire, till all the Scum be riſen, and taken off: Then take it from the Fire, and while it is yet warm, Tun it up into an open Stone-Veſſel, putting into it forty Cloves, and four Lemons ſplit in Quarters (the Rind of half of 'em being pared off.) Barm it, with three or four little White-Bread Toaſts, cover'd over with new Ale Yeaſt, then ſtop up the Veſſel cloſe, and let it ſtand for eight or ten Days; after this Bottle it up, and in a Week's Time it will be fit for Drinking, tho' it will be much better at the Fortnights end or longer, it be if kept in a cool Place and well Corked.

In the Compoſition of this Liquor, it were better to omit the Bag of Seeds and Roots in the Boiling, and put them into the Mead when Barmed, or beginning to Ferment, leſt otherwiſe the Liquor be depriv'd of the Virtues of the ſaid Ingredients; for amongſt all the Claſs of Vegetables, there's none that can leſs endure the Heat of Fire, than the Horſe-Radiſh, which will ſcarce bear a gentle Fermentation, without a conſiderable loſs of its firſt volatile Particles; which as they are highly Aperitive and Diuretick, are abſolutely neceſſary to be retain'd in the Mead, whoſe Efficacy and Operation ſolely tends that way.

When the Mead is deſigned for longer keeping, the Proportion of Honey and Sugar muſt be much augmented, even to double and treble the Quantity; which then affords a ſtrong ſpirituous Liquor; to which ſome add in order to give it a richer Flavour, a certain Quantity of Mace, Cloves, and Nutmegs (*viz.* about the Weight of two Drachms of each, to the above preſcribed Quantity of Liquor) all beaten and tied in a thin Cloth, and put into the Cask, when the Mead is Tunn'd; which may ſtand for half a Year in the Veſſels, before it be Bottled.

SYCOMORE WINE.

TO every Gallon of the Liquor freſh drawn from the Tree, and boiled a quarter of an Hour over the Fire, add two Pounds of the fineſt Powder Sugar. Boil the Liquor again for half an Hour longer, taking off all the Scum as it riſes. When removed from the Fire, and almoſt cold, Barm it as you do Birch-Wine; let it ſtand until it be white over, ſtirring it twice a Day, (*viz.* for three or four Days) then ſmoke your Barrel with a little Brimſtone; and when you Tun it, put into each Gallon of Liquor, one Pound of *Malaga* Raiſins, clean pickt and ſhred, (or a like Quantity of Loaf Sugar) with the Whites of two Eggs. Stop it up cloſe, and let it remain unmoved until the Wine be perfectly fine, and then Bottle it.

Note, That this Sycomore Wine, after it has ſtood a due Time upon the Raiſins, is to be rack'd off into a clean Cask, and depurated with Iſinglaſs, as directed in the making of Birch-Wine, if it be not then clear. You may gather the Water or Juice of the Sycomore-Tree, for making this Wine, in *January*.

BOTTLED PUNCH.

TO one Gallon of the beſt Brandy, put the Parings of ſix Lemons, and as many Oranges. Infuſe them together for four Days. In the mean time take twelve Pints of ſoft Water, and one Pound and an half of fine Sugar, with the Whites of ſix Eggs, beaten up to a Froth, in a little of the ſaid cold Water; mix 'em together and ſet the Liquor over the Fire, and when it boils, Scum it clean whilſt any thing riſes. Then take it from the Fire, and when it is fully cold, put it into a proper Veſſel, and add to it the Brandy with the Peels, with as much Juice of Lemons as you think proper. Stop up the Veſſel cloſe, and let it ſtand for ſix Weeks, then rack it carefully off for uſe.

This is a ſtrong Punch, to be uſed only as a cordial Dram, of a grateful Taſte and Flavour, and is ſold in ſome Taverns under a foreign Appellation.

To make Shrub for PUNCH.

TAKE the Peels of five Lemons, infuſe them in a Quart of Brandy; then add the Juice of ten Lemons, with half a Pound of Loaf Sugar; ſtir all well together, and let them ſtand for twenty four Hours, then ſtrain the Liquor through a Jelly-Bag, for uſe.

To a Quart of this Infuſion, you may put one Pint of Brandy, and three Quarts of Spring Water, and the Punch is made. But 'tis to be obſerved, that all the Lemons are to be perfectly ſound; for one faulty Lemon will ſpoil the whole Compoſition.

GOLDEN CORDIAL.

TAKE one Gallon of the beſt *French* Brandy; add to it two Onnces of Spirit of Saffron, two Drachms of the Confection of *Alkermes*, and one Drachm of the Oil of Cloves; one Pound of double refined Sugar, one Grain of Muſk, and one Grain of Ambergreaſe.

Mix the Confection of *Alkermes* in a Marble or Glaſs Mortar with a little of the ſaid Brandy; and incorporate your Oil of Cloves with the Loaf Sugar, by dropping it thereon, and grinding them together; then put the Brandy into a wide mouth'd Bottle, with the reſt of the Ingredients; ſhake them well together, and cloſe the Mouth of the Glaſs over with a wet Bladder and Leather, ſhaking the Bottle every Day. Then let the Liquor ſettle, and ſtrain it through a Jelly-Bag; when it hath ſtood ſome time, decant off the clear Liquor, and into every Quart put three Leaves of Gold.

If the Colour be not high enough; it may be augmented, by hanging in the Glaſs a little Saffron tied up in a Bag, which will bring it to due Perfection, *viz.* of a beautiful Gold Colour; and in caſe of Neceſſity, the ſame may well ſupply the Place of its Spirit, where it is not eaſily to be had, by adding a due Proportion; as about three Drachms will ſuffice to impregnate the whole Quantity preſcribed.

'Tis a very rich Cordial, both in Price and Goodneſs. It wonderfully refreſhes the Spirits, and invigorates the whole nervous Syſtem; and may very profitably be uſed in all Languors, Faintneſs, and ſinking of the Spirits, whether proceeding from an Hyſterical, or any other Diſorder; eſpecially where the Perfumes are not offenſive. For ſome Perſons cannot bear their Smell or Taſte without great Prejudice; and therefore this and the like perfumed Cordials are always to be avoided by them, unleſs they would run the hazard of Fainting.

LEMON WATER.

TAKE the Peels (very thin pared) of three large Lemons; infuſe them in three Pints of Brandy for five or ſix Days, and then ſtrain off the Liquor.

In the mean time take a Quart of Spring Water, and ten Ounces of Double-refin'd Sugar; boil them up to a thin Syrup, Scum it clear, and then put in a little Cinnamon, with two or three Cloves, one large blade of Mace, and a little Nutmeg; boil theſe a little longer, until they have given it a fine Flavour; then take the Liquor from the Fire, and let it ſtand until it be cold; And if there be any Scum or Droſs upon it, run it, whilſt hot, through a Jelly-Bag. Mix both theſe Liquors together when the former is fully cold, and Bottle the mixture.

This is a pleaſant Cordial Water, of an eaſy Compoſition, and a moderate Price, and much preferable in my Opinion, to the made Wine going under the ſame Title. It may be uſed in all Caſes where a Cordial Dracm is required, and is a pretty Cloſet Medicine. After the ſame manner may be prepared an Orange Water, which will be found no leſs Stomachick than the other, and as grateful to the Palate in all reſpects.

An Excellent AROMATICK BITTER.

TAKE of Gentian Root, ſliced and cut ſmall, 2 Ounces; Orange Peel, dry'd and cut ſmall, one Ounce; *Virginian* Snake Root, half an Ounce; Cochineal a little bruiſed, and Saffron, each two Drachms; infuſe them in a Quart of *French* Brandy for a Week or ten Days, and then ſtrain off the clear Tincture for uſe. There are ſome who add the tops of Centaury, and *Roman* Wormwood, each one Pugil, to augment the Bitterneſs, and make it a better Stomachick. But if inſtead of theſe Ingredients, was added half an Ounce of the Root of *Caſſummuniar*, or *Zedoary*, the Medicine would be much Improved, without any notable Alteration in the Taſte. It is a grateful and pleaſant Bitter, much like to that of *Stoughton*'s Drops; tho' the Saffron and Cochineal being here in larger Quantity than in *Stoughton*'s Drops, as is plain from the deeper Colour of the Tincture, this muſt neceſſarily be the better Cordial and Alexipharmick; and the reſt of the Ingredients evidently concurring to this Intention, it may be uſed after the ſame manner as the other, and with the ſame deſign.

The Infuſion is ordered for ten Days; whereas in other Preſcriptions, ſcarce half the time is allowed. But it is here abſolutely neceſſary, in order to extract all the Virtues of the Ingredients. For the Saffron very ſlowly emits its Colour to a ſpirituous Menſtruum; and the Snake Root is ſtill ſlower in imparting its Principles to the like Liquor: Therefore a longer Digeſtion is neceſſarily required; and when that is effected, and the Liquor ſtrain'd off from the Ingredients, a ſecond Infuſion may be made from the ſame, with about half the Quantity of Brandy; which altho' it will not be ſo ſtrong as the former, will yet afford a very good Bitter, if taken in a larger Doſe.

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